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CAPITAL PROJECTS DETAIL

Date: 12/23/2014
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227 Bismarck State College

Version: 2015-R03-00227

Capital Project

Major Campus Infrastructure

	Request/Optional	Recommendation
Total Project Cost	1,575,000	1,575,000
General Fund	1,575,000	1,575,000
Federal Funds	0	0
Special Funds	0	0
Bonding	0	0

Is this a multibiennium project? **No of Biens:** 1 **Est. Costs** 1,575,000

Future Increased Costs Associated with Project Approval

	2015-2017	2017-2019	2019-2021
Salaries and Wages	0	0	0
Operating Expenses	0	0	0
Equipment > $5,000	0	0	0
IT Equipment > $5,000	0	0	0
Special Lines	0	0	0
Total	**0**	**0**	**0**

	2015-2017	2017-2019	2019-2021
FTE	0.00	0.00	0.00
General Fund	0	0	0
Federal Funds	0	0	0
Special Funds	0	0	0
Total	**0**	**0**	**0**

Project Specifications

Project Title: BSC Major Campus Infrastructure

Amount Requested: $1,575,000

Funding Source: State General Fund

Deferred Maintenance Addressed: $1.2 Million

BSC has grouped together a number of major infrastructure projects that, when taken as a whole, present an extraordinary reduction in critical deferred maintenance needs for the campus. Project includes:

REPLACE OUTDATED AND INEFFICIENT BOILERS WITH NEW HIGH-EFFICIENCY UNITS [est. $675,000]: The (one hot water boiler and two steam boilers were installed when the facilities were constructed in the 1970's, nearly 40 years ago. Expected life at installation of the boilers was 25-30 years. They have long exceeded their useful lives and because the technology is so outdated, they are extremely inefficient and costly to operate and maintain. The current boilers are running at about 60% efficiency as compared to new hot water boilers which would operate at about 95%. Many parts are difficult to find and maintenance staff spend inordinate amounts of time keeping the systems working and trying to limit the length of downtimes. In addition, two fuel tanks have been used for back-up interruptible power. These are original to the building and are in need of replacement. In this project, all three boilers would be replaced with new high-efficiency hot water boilers and the fuel tanks would be removed or filled with sand.

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PRIMARY ELECTRICAL DISTRIBUTION SYSTEM [est. $500,000]: The current electrical distribution system was installed in the early 1980's, over 30 years ago. Life expectancy of electrical cabling when installed was about 20 years. The particular type and vintage of cable installed back then has a history of premature failure caused by a condition known as water treeing. Since the cabling was installed, cable construction has changed to protect against water treeing. Located at the main building is a step down from the main transformer to two lower voltage transformers which are owned by MDU. This step down serves to distribute medium voltage power to two other buildings via outdated gear and circuits. This project includes new HDVB cable direct buried from the MDU connection point and installation of a new 12,470 volt pad mount transformer along with a new 208-volt service. Replacement of the electrical system will save staff repair & maintenance time and the cost of difficult to find parts.

NEW IP TELEPHONE SYSTEM IN COOPERATION WITH NDSU AND UND [est. $300,000]: BSC's campus telephone system was installed in 1994 and has a limited capacity for upgrades. With the convergence of data, video and voice technology over a single network, it's important that BSC migrate to a voice over IP system (VoIP) which allows full functionality of a unified communications system (i.e., voice, video, presence, voice messaging, instant messaging, mobility, soft phones, desktop sharing, conferencing, etc.) and is compatible with other NDUS campuses. The upgrade would also allow for five digit dialing to NDUS campuses and state agencies across the state and allow for long distance calls to be routed through the Internet, saving on long distance charges. The project would use either NDSU's or UND's Avaya system to do the processing and voice mail with a gateway and survivable equipment at BSC that would connect the phones, trunking and communications back to the main switch. It would entail replacing all current digital phones with IP based phones, contracting with UND or NDSU to connect to the UND PBX and adding new switches in communications closets for the IP based phone connections. By moving to a VoIP system, BSC has taken the next step in line with the NDUS vision to move the entire system into a single unified communications system.

NEW IN LINE FILTER SYSTEM FOR IRRIGATION SYSTEM [est. $100,000]: BSC irrigates the campus with water pumped from the Missouri River. Due to the change in sediment levels in the river since the flood of 2011, sand is also making its way through the intake and into the lines, clogging sprinkler heads. $5,000 - $10,000 a year has been spent on parts to replace sprinkler heads as well as significant staff time to make the repairs. This project entails adding a line filter system at each of four pump houses to filter the silt before it enters the irrigation system. By adding a line filters to the irrigation system, needless repairs would be avoided and significant staff time would be reallocated to other campus needs.

In total, the project has great benefits in terms of system functionality and future operating efficiency savings. If this project is approved, estimated future operating costs of $40,000 would be reallocated to other needs on campus.

Cost Benefit Analysis

Not applicable. This is not a new building construction project.

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Capital Project

Student Union LL Renovation

	Request/Optional	Recommendation
Total Project Cost	600,000	600,000
General Fund	0	0
Federal Funds	0	0
Special Funds	600,000	600,000
Bonding	0	0

Is this a multibiennium project? **No of Biens:** 1 **Est. Costs** 1,575,000

Future Increased Costs Associated with Project Approval

	2015-2017	2017-2019	2019-2021
Salaries and Wages	0	0	0
Operating Expenses	0	0	0
Equipment > $5,000	0	0	0
IT Equipment > $5,000	0	0	0
Special Lines	0	0	0
Total	**0**	**0**	**0**

	2015-2017	2017-2019	2019-2021
FTE	0.00	0.00	0.00
General Fund	0	0	0
Federal Funds	0	0	0
Special Funds	0	0	0
Total	**0**	**0**	**0**

Project Specifications

Project Title: Student Union Lower Level Renovation

Amount Requested: $600,000

Funding Source: Auxiliary Reserve Funds

Deferred Maintenance Addressed: $30,000

The renovation of the lower level of the Student Union was included in the scope of the current Student Union renovation project which was approved for Revenue Bond funding by the legislature in 2013-15 session. Due to significant cost escalations in the Bismarck area, contractor bids came in much higher than budget. BSC needed to accept a deduct alternate for the lower level to stay within legislative authorization. Additionally, the campus will lose two large meeting rooms upon completion of main level renovations. Space on campus is at a premium, and meeting rooms for employee and visitor use continues to grow. Replacing the lost main floor meeting rooms on the lower level is needed to keep up with demand for use.

The project would include renovation of 8,500 sf in the lower level of the Student Union: new flooring, paint and lighting in the existing meeting rooms and offices, construction and furnishing of two new meeting rooms, construction of hallway from loading dock elevator to lower level book area, and updated furnishings for existing meeting rooms (an alternate in the original bid). The project would also include lower level exterior entrance canopy and screen wall around mechanical and electrical equipment (an alternate in the original bid).

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Upon completion of the addition and upper level renovation in March 2015, the main level of the student union will include auxiliary services (bookstore and foodservice), student governments/clubs, and student life support. The lower level will consist of nonfunctional space (vacated by the bookstore), student support functions (advising & counseling, office of associate VP of student affairs) and three meeting rooms. A main entrance to the building will be from the east parking lot through the east doors on the lower level. Students', employees' and visitors' first impression of the building will be dingy, outdated and nonfunctional space -- a sharp contrast to the modern, bright, inviting and functional space of the main level.

Cost Benefit Analysis

Not applicable. This is not a new building construction project.